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EXAMINER	
RASHID, DAVID	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/774,590	NONAKA ET AL.	
	Examiner	Art Unit	
	DAVID P. RASHID	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 11-20* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Table of Contents

Amendments & Claim Status

[1] This office action is responsive to Amendment Under 37 C.F.R. § 1.111 received on Dec. 18, 2008. Claims 1 and 3-30 remain pending; claim 2 cancelled.

Response to Arguments

[2] Applicant's Remarks filed Dec. 17, 2008 with respect to claims 1 and 3-30 have been respectfully and fully considered, but are not found persuasive.

Summary of Remarks regarding Rejections under 35. U.S.C. § 102(b)

> Pearlstein, however, teaches that the alleged unencoded data combining circuit 458 merely combines the uncompressed local image data with the unencoded video data output by the decoder 456 (col. 7, lines 47-64; 458 in Fig. 5). This is different from, and fails to teach or suggest, the claim invention that recites, *"the image enhancement processing comprises at least one of gradation correction, white balance correction, density correction, and sharpness processing,"* as recited in claims 1, 3, 4, 6, 8, 9, 11-14, 16, and 18-20.

Remarks at 17.

Applicant's arguments with respect to claims 1, 3, 4, 6, 8, 9, 11-14, 16, and 18-20 have been considered but are moot in view of the new ground(s) of rejection of Pearlstein in view of Nagao.

Summary of Remarks regarding Rejections under 35, U.S.C. § 103(a)

> Moreover, Applicants submit that Miyasaka fails to make up the deficiencies of Pearlstein.
>
> Indeed, Miyasaka discloses a method for decoding data of intra-frame encoded data (col. 4, lines 24-35). Miyasaka, however, is silent about and fails to teach or suggest, *"the image enhancement processing comprises at least one of gradation correction, white balance correction, density correction, and sharpnes sprocessing,"* as recited in claim 4, and similarly recited in claims 8, 11, 14, 18, and 20.

Remarks at 18.

Applicant's arguments with respect to claims 8, 11, 14, 18, and 20 have been considered but are moot in view of the new ground(s) of rejection of Pearlstein in view of Miyasaka and Nagao.

> That is, adding the teachings of Miyasaka to the device of Pearlstein would change the principle of operation of Pearlstein, since the references teach two distinct systems that have different structures, are for different purposes, and perform in different environments.
>
> Indeed, the Examiner attempts to pick and choose different elements and functions from the device of Miyasaka to enable the non analogous device of Pearlstein to have a structure similar to the claimed image processing apparatus. Therefore, Applicants respectfully submit that the Examiner is improperly using the claimed invention as a roadmap and that one of ordinary skill in the art would not have combined the references as alleged by the Examiner.
>
> Indeed, direct substitution of the first and second set of frames of Pearlstein with intra and inter frames of Miyasaka, as alleged by the Examiner, would not result in reasonable expectation of success. Thus, the Examiner has not established a *prima facie* case of obviousness. Therefore, one with ordinary skill in the art would not have combined the references, as alleged by the Examiner.

Remarks at 18-19 (emphasis added).

However, a principle of operation argument "suggest[[ed]] combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." See M.P.E.P. § 2143.01(VI) and 270 F.2d at 813, 123 USPQ at 352. There is no substantial reconstruction and redesign of the elements, as both primary and secondary references are directed to moving picture data using a processor/memory design.

In response to applicant's argument Miyasaka is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, "using the claimed invention as a roadmap" (Remarks at 19) is unclear when the applicant is "to produce contrary evidence establishing that the reference being relied on would not enable a skilled artisan to produce the different compounds claimed." See M.P.E.P. § 2145(VII) and 399 F.2d 269 at 274-75. Both Miyasaka and Pearlstein are directed to video compression using a processor and memory (more specifically MPEG video) of which divides the video into counterparts. Pearlstein discloses the counterparts as target and non-target frames, but not specifically inter and intra frames. It would have been obvious to assign those inter and intra frames of Miyasaka into the image processing apparatus of Pearlstein for the reasons given below. Both use MPEG video that would allow such assignment from target/non-target to inter/intra frames.

For the reasons given above (in light of the motivation argument given below), it would have been obvious to try dividing MPEG frames into inter/intra frames as this would be a clear example of choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success. See M.P.E.P. § 2141(III).

[3] Applicant's Remarks filed Dec. 17, 2008 with respect to claims 6-7 and 16-17 have been respectfully and fully considered, and found persuasive.

Summary of Remarks regarding Rejections under 35. U.S.C. § 103(a)

> That is, in rejecting claim 6, and similarly claims 7, 16, and 17, the Examiner bases his rejection upon Pearlstein and Honjo (see Office Action at page 18, lines 1-2). Then, the Examiner incorrectly relies upon, and recites features and sections from, Miyasaka (see Office Action at page 19, lines 5, 10, and 11), although Miyasaka was not cited in the rejection. Applicants request appropriate correction.

Remarks at 19.

Applicant's arguments have been fully considered and are persuasive. Therefore, the rejection has been modified.

> Indeed, Honjo discloses a method for decoding I frames and P frames (paragraph [0066]). Honjo, however, is silent about and fails to teach or suggest, *"the image enhancement processing comprises at least one of gradation correction, white balance correction, density correction, and sharpness processing,"* as recited in claims 6 and 16.

Remarks at 19.

Applicant's arguments with respect to claims 6-7, 16, and 17 have been considered but are moot in view of the new ground(s) of rejection of Pearlstein in view of Honjo and Nagao.

In addition, applicant then gives the same set of arguments as given above. See Remarks at 18-19 (arguing (i) principle of operation; (ii) non-analogous art; and (iii) unreasonable expectation of success) and Remarks at 20-21 (arguing an equivalent argument in light of Honjo). Similar to Miyasaka, Honjo uses MPEG format on a processor/memory. Similar to the argument given above, Honjo produces a similar principle of operation, is not non-analogous art, and produces a reasonable expectation of success as it would be obvious to try. See above reasoning in light of Miyasaka for a similar makeup.

Specification

[4] In response to Amendments to the Title received on Dec. 18, 2008, the previous specification objections are withdrawn.

Claim Objections

[5] In response to the Amendments to the Claims received on Dec. 18, 2008, the previous claim objections are withdrawn.

Claim Rejections - 35 U.S.C. § 112

[6] In response to the Amendments to the Claims received on Dec. 18, 2008, the previous § 112 rejections are withdrawn.

Claim Rejections - 35 U.S.C. § 101

[7] In response to the Amendments to the Claims received on Dec. 18, 2008, the previous § 101 rejections are withdrawn.

Claim Rejections - 35 USC § 103

[8] The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Pearlstein in view of Nagao

[9] **Claims 1, 9, 12,** and **19** are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,594,311 (filed Jul. 29, 1998, hereinafter "Pearlstein") in view of U.S. Patent No. 6,373,992 (issued Apr. 16, 2002, hereinafter "Nagao").

Regarding **claim 1**, while *Pearlstein* discloses an image processing apparatus (fig. 4) for obtaining processed compressed moving image data (*e.g.*, fig. 4, item 402) by carrying out image enhancement processing (fig. 5, item 458; *e.g.*, inserting uncompressed local image data) on compressed moving image data ("COMPRESSED VIDEO" at fig. 5; *e.g.*, fig. 3), the image processing apparatus comprising:

division means (fig. 5, item 454) for dividing the compressed moving image data ("COMPRESSED VIDEO" at fig. 5) into a target part to be corrected (the output of item 454 sent directly to item 456) and a non-target part not to be corrected (the output of item 454 sent directly to item 462);

decoding means (fig. 5, item 456) for obtaining decoded data by decoding the target part;

correction means (fig. 5, item 458) for obtaining corrected decoded data by carrying out the image enhancement processing (*e.g.*, inserting uncompressed local image data) on the decoded data;

encoding means (fig. 5, item 460) for encoding the corrected decoded data; and

combination means (fig. 5, item 462) for obtaining the processed compressed moving image data by combining the target part that has been encoded (upper input arrow into item 462) with the non-target part (lower input arrow into item 462), *Pearlstein* does not disclose wherein

the image enhancement processing comprises at least one of gradation correction, white balance correction, density correction, and sharpness processing.

Nagao teaches a method and apparatus for image processing that comprises at least one of gradation correction ("color and tone (gradation) adjustment" at 7:21-26), white balance correction, density correction, and sharpness processing (fig. 2, item 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the image enhancement processing of *Pearlstein* to include at least one of gradation correction, white balance correction, density correction, and sharpness processing as taught by *Nagao* "to provide a method for processing digital images to suppress noise and enhance sharpness, by which graininess can be suppressed and image sharpness enhanced without causing any of the problems associated with the prior art." *Nagao* at 3:35-39.

Regarding **claim 9**, *Pearlstein* discloses an image processing apparatus (fig. 4) for obtaining processed compressed moving image data (*e.g.*, fig. 4, item 402) by carrying out image enhancement processing (fig. 5, item 458; *e.g.*, inserting uncompressed local image data) on compressed moving image data ("COMPRESSED VIDEO" at fig. 5; *e.g.*, fig. 3) comprising a plurality of frames, the image processing apparatus comprising:

division means (fig. 5, item 454) for dividing the compressed moving image data ("COMPRESSED VIDEO" at fig. 5) into target frames (the output of item 454 sent directly to item 456) and non-target frames (the output of item 454 sent directly to item 462);

decoding means (fig. 5, item 456) for obtaining decoded frames by decoding the target frames;

correction means (fig. 5, item 458) for obtaining corrected decoded frames by carrying out the image enhancement processing (*e.g.*, inserting uncompressed local image data) on the decoded frames;

encoding means (fig. 5, item 460) for encoding the corrected decoded frames; and

combination means (fig. 5, item 462) for obtaining the processed compressed moving image data by combining the corrected frames (upper input arrow into item 462) with the non-target part (lower input arrow into item 462);

correction parameter calculation means (fig. 5, item 458) for calculating a correction parameter (*e.g.*, the frame number parameter to signify "where the data to be inserted

corresponds to only a portion of the insertion segment or is intended to be, e.g., a transparent overlay. . ." at 7:48-54) for each of the decoded frames by using data of a corresponding decoded frame;

parameter adjustment means (fig. 5, item 458) for obtaining an adjusted parameter ("parameter adjustment" occurs when moving unto the next frame and obtaining the correction parameter for the next frame) for each of the decoded frames by adjusting (the correction parameter is "adjusted" when the correction parameter moves unto the next frame) the correction parameter thereof, with use of the correction parameter for the decoded frame or frames that at least one of precedes and follows the decoded frame corresponding to the correction parameter that is going to be adjusted (the correction parameter for overlay is information given for all frames decoded at item 456, and thus the correction parameter "adjusts" for preceding and following frames); and

correction execution means (fig. 5, item 458) for carrying out the image enhancement processing (*e.g.*, inserting uncompressed local image data) on each of the decoded frames by using the adjusted parameter (the next frame number (adjusted parameter) is used for the next frame), *Pearlstein* does not disclose wherein the image enhancement processing comprises at least one of gradation correction, white balance correction, density correction, and sharpness processing.

Nagao teaches a method and apparatus for image processing that comprises at least one of gradation correction ("color and tone (gradation) adjustment" at 7:21-26), white balance correction, density correction, and sharpness processing (fig. 2, item 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the image enhancement processing of *Pearlstein* to include at least one of gradation correction, white balance correction, density correction, and sharpness processing as taught by *Nagao* "to provide a method for processing digital images to suppress noise and enhance sharpness, by which graininess can be suppressed and image sharpness enhanced without causing any of the problems associated with the prior art." *Nagao* at 3:35-39.

Regarding **claim 12**, claim 1 recites identical features as in claim 12. Thus, references/arguments equivalent for claim 1 are equally applicable to claim 12.

Regarding **claim 19**, claim 9 recites identical features as in claim 19. Thus, references/arguments equivalent for claim 9 are equally applicable to claim 19.

Pearlstein in view of Pearlstein and Nagao

[10] **Claims 3** and **13** are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Pearlstein* in further view of *Pearlstein* and *Nagao*.

Regarding **claim 3**, while *Pearlstein* discloses an image processing apparatus (fig. 4) for obtaining processed compressed moving image data (*e.g.*, fig. 4, item 402) by carrying out image enhancement processing (fig. 5, item 458; *e.g.*, inserting uncompressed local image data) on compressed moving image data ("COMPRESSED VIDEO" at fig. 5; *e.g.*, fig. 3), the image processing apparatus comprising:

division means (fig. 5, item 454) for dividing the compressed moving image data ("COMPRESSED VIDEO" at fig. 5) into a first frame (the output frame(s) of item 454 sent directly to item 456; any one of the multiple frames sent to item 456 may be called a first frame reference) and other frames (the output frame(s) of item 454 sent directly to item 462 which is not a first frame);

decoding means (fig. 5, item 456) for obtaining decoded data by decoding the target part;

correction means (fig. 5, item 458) for obtaining corrected decoded data by carrying out the image enhancement processing (*e.g.*, inserting uncompressed local image data) on the decoded data;

encoding means (fig. 5, item 460) for encoding the corrected decoded data; and

combination means (fig. 5, item 462) for obtaining the processed compressed moving image data by combining the target part that has been encoded (upper input arrow into item 462) with the non-target part (lower input arrow into item 462), *Pearlstein* does not teach image enhancement processing (i) on compressed moving image data obtained according to a compression method using a first frame as a reference frame; and (ii) comprising at least one of gradation correction, white balance correction, density correction, and sharpness processing.

Pearlstein teaches image enhancement processing ("high compression efficiency" at 1:43) on compressed moving image data (*e.g.*, fig. 2) obtained according to a compression method using a first frame as a reference frame ("reference frame" at 1:43-67 and 2:13-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the frame of *Pearlstein* to be a first frame used as a reference frame as taught by *Pearlstein* "[i]n order to obtain high compression efficiency" (*Pearlstein*, 1:43) and "to perform the local insertion of picture content within emerging digital television networks." *Pearlstein*, 1:35-37.

Nagao teaches a method and apparatus for image processing that comprises at least one of gradation correction ("color and tone (gradation) adjustment" at 7:21-26), white balance correction, density correction, and sharpness processing (fig. 2, item 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the image enhancement processing of *Pearlstein* in view of *Pearlstein* to include at least one of gradation correction, white balance correction, density correction, and sharpness processing as taught by *Nagao* "to provide a method for processing digital images to suppress noise and enhance sharpness, by which graininess can be suppressed and image sharpness enhanced without causing any of the problems associated with the prior art." *Nagao* at 3:35-39.

Regarding **claim 13**, claim 3 recites identical features as in claim 13. Thus, references/arguments equivalent for claim 3 are equally applicable to claim 13.

Pearlstein in view of Miyasaka et al. and Nagao

[11] Claims 4-5, 8, 11, 14-15, 18, and **20** are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Pearlstein* in view of U.S. Patent No. 5,991,503 (issued Nov. 23, 1999, hereinafter "Miyasaka et al.") and *Nagao*.

Regarding **claim 4**, while *Pearlstein* discloses an image processing apparatus (fig. 4) for obtaining processed compressed moving image data (*e.g.*, fig. 4, item 402) by carrying out image enhancement processing (fig. 5, item 458; *e.g.*, inserting uncompressed local image data) on compressed moving image data ("COMPRESSED VIDEO" at fig. 5; *e.g.*, fig. 3) comprising a first set of frames and a second set of frames, the image processing apparatus comprising:

division means (fig. 5, item 454) for dividing the compressed moving image data ("COMPRESSED VIDEO" at fig. 5) into the first set of frames (the output frame(s) of item 454 sent directly to item 456; any one of the multiple frames sent to item 456 may be called a first

frame reference) and the second set of frames (the output frame(s) of item 454 sent directly to item 462 which is not a first frame);

decoding means (fig. 5, item 456) for obtaining decoded data by decoding the first set of frames and the second set of frames;

correction means (fig. 5, item 458) for obtaining corrected decoded data by carrying out the image enhancement processing (*e.g.*, inserting uncompressed local image data) on the first set of frames;

encoding means (fig. 5, item 460) for encoding the corrected the first set of frames; and

combination means (fig. 5, item 462) for obtaining the processed compressed moving image data by combining the first set of frames that has been encoded (upper input arrow into item 462) with the second set of frames (lower input arrow into item 462), *Pearlstein* does not teach (i) wherein the division means divides compressed moving image data into the intra frames and the inter frames; and (ii) wherein the image enhancement processing comprises at least one of gradation correction, white balance correction, density correction, and sharpness processing.

Miyasaka et al. teaches a division means for dividing the compressed moving image data into the intra frames and the inter frames ("a method for decoding only the intra-frame encoded data" at 4:29-31).

Because both *Pearlstein* and *Miyasaka et al.* teach methods for dividing a compressed moving image, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the first set of frames with intra frames, and the second set of frames with inter frames to achieve the predictable result of "provid[ing] a method for performing a special reproducing operation of picture data in an effective and simple manner without the need to increase the storage capacity of a storage medium." *Miyasaka et al.* at 2:49-52.

Nagao teaches a method and apparatus for image processing that comprises at least one of gradation correction ("color and tone (gradation) adjustment" at 7:21-26), white balance correction, density correction, and sharpness processing (fig. 2, item 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the image enhancement processing of *Pearlstein* in view of *Miyasaka et al.* to include at least one of gradation correction, white balance correction, density correction, and

sharpness processing as taught by *Nagao* "to provide a method for processing digital images to suppress noise and enhance sharpness, by which graininess can be suppressed and image sharpness enhanced without causing any of the problems associated with the prior art." *Nagao* at 3:35-39.

Regarding **claim 5**, *Pearlstein* in view of *Miyasaka et al.* and *Nagao* discloses (*see* claim objection for failure to further limit) the image processing apparatus according to claim 4 further comprising block division means (*Pearlstein*, fig. 5, item 454) for dividing the inter frames into intra blocks and inter blocks (frames are divided at item 454 (*see* claim 4), thus since frames are divided so are their blocks because frames are comprised of blocks),

the decoding means (*Pearlstein*, fig. 5, item 456) further obtaining decoded intra blocks by decoding the intra blocks,

the correction means (*Pearlstein*, fig. 5, item 458) further obtaining corrected decoded intra blocks by carrying out the image enhancement processing on the decoded intra blocks,

the encoding means (*Pearlstein*, fig. 5, item 460) further obtaining corrected intra blocks by encoding the corrected decoded intra blocks, and

the combination means (*Pearlstein*, fig. 5, item 462) obtaining the processed compressed moving image data by combining the corrected intra frames and the corrected intra blocks with the inter blocks.

Regarding **claim 8**, while *Pearlstein* discloses image processing apparatus (fig. 4) for obtaining processed compressed moving image data (*e.g.*, fig. 4, item 402) by carrying out image enhancement processing (fig. 5, item 458; *e.g.*, inserting uncompressed local image data) on compressed moving image data mainly comprising discrete cosine transform (DCT) coefficient data and motion vector data ("MPEG" comprises DCT coefficient data and motion vector data; "COMPRESSED VIDEO" at fig. 5; *e.g.*, fig. 3) of each frame, the image processing apparatus comprising:

extraction means (fig. 4, item 405-406 wherein the motion vector data is taken to create subregions that will later be separated at parser item 454) for extracting the motion vector data from the compressed moving image data (fig. 4, item 405);

decoding means (fig. 5, item 456) for obtaining decoded data by decoding the compressed moving image data with use of the motion vector data;

correction means (fig. 5, item 458) for obtaining corrected decoded data by carrying out the image enhancement processing (*e.g.*, inserting uncompressed local image data) on the decoded data; and

encoding means (fig. 5, item 460) for obtaining the processed compressed moving image data by encoding the corrected decoded data, wherein

the encoding means (fig. 5, item 460) encodes the corrected decoded data by using the motion vector data (lower input arrow into item 462) obtained by the extraction means,

Pearlstein does not disclose (i) extracting and decoding the DCT coefficient data from the compressed moving image data; and (ii) wherein the image enhancement processing comprises at least one of gradation correction, white balance correction, density correction, and sharpness processing.

Miyasaka et al. teaches extracting and decoding DCT coefficient data (fig. 3, item 54) from the compressed moving image data (fig. 3, item 11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the image processing apparatus of *Pearlstein* to include extracting and decoding the DCT coefficient data from the compressed moving image data as taught by *Miyasaka et al.* "to provide a method for performing a special reproducing operation of picture data in an effective and simple manner without the need to increase the storage capacity of a storage medium." *Miyasaka et al.*, 2:49-52.

Nagao teaches a method and apparatus for image processing that comprises at least one of gradation correction ("color and tone (gradation) adjustment" at 7:21-26), white balance correction, density correction, and sharpness processing (fig. 2, item 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the image enhancement processing of *Pearlstein* in view of *Miyasaka et al.* to include at least one of gradation correction, white balance correction, density correction, and sharpness processing as taught by *Nagao* "to provide a method for processing digital images to suppress noise and enhance sharpness, by which graininess can be suppressed and image sharpness enhanced without causing any of the problems associated with the prior art." *Nagao* at 3:35-39.

Regarding **claim 11**, while *Pearlstein* discloses an image processing apparatus (fig. 4) for obtaining processed compressed moving image data (*e.g.*, fig. 4, item 402) by carrying out image enhancement processing (fig. 5, item 458; *e.g.*, inserting uncompressed local image data) on compressed moving image data ("COMPRESSED VIDEO" at fig. 5; *e.g.*, fig. 3) comprising a first set of frames and a second set of frames, the image processing apparatus comprising:

division means (fig. 5, item 454) for dividing the compressed moving image data ("COMPRESSED VIDEO" at fig. 5) into the first set of frames (the output frame(s) of item 454 sent directly to item 456; any one of the multiple frames sent to item 456 may be called a first frame reference) and the second set of frames (the output frame(s) of item 454 sent directly to item 462 which is not a first frame);

decoding means (fig. 5, item 456) for obtaining decoded data by decoding the first set of frames and the second set of frames;

correction means (fig. 5, item 458) for obtaining corrected decoded data by carrying out the image enhancement processing (*e.g.*, inserting uncompressed local image data) on the first set of frames;

encoding means (fig. 5, item 460) for encoding the corrected the first set of frames; and

combination means (fig. 5, item 462) for obtaining the processed compressed moving image data by combining the first set of frames that has been encoded (upper input arrow into item 462) with the second set of frames (lower input arrow into item 462),

the correction means (fig. 5, item 458) carries out the image enhancement processing (*e.g.*, inserting uncompressed local image data) on the first set of frames by calculating a correction parameter (*e.g.*, the frame number parameter to signify "where the data to be inserted corresponds to only a portion of the insertion segment or is intended to be, e.g., a transparent overlay. . ." at 7:48-54) therefor and on the first set of frames by using the correction parameter of the decoded first set of frames that immediately precedes the decoded first set of frames (the correction parameter for overlay is information given for all frames decoded at item 456, and thus the correction parameter "adjusts" for preceding and following frames), *Pearlstein* does not disclose (i) wherein the division means divides compressed moving image data into the intra frames (of which some would include target and non-target) and the inter frames (of which some would include target and non-target); and (ii) wherein the image enhancement processing

comprises at least one of gradation correction, white balance correction, density correction, and sharpness processing.

Miyasaka et al. teaches a division means for dividing the compressed moving image data into the intra frames (of which some would include target and non-target frames) and the inter frames ("a method for decoding only the intra-frame encoded data" at 4:29-31; of which some would include target and non-target frames).

Because both *Pearlstein* and *Miyasaka et al.* teach methods for dividing a compressed moving image, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the first set of frames with intra frames, and the second set of frames with inter frames to achieve the predictable result of "provid[ing] a method for performing a special reproducing operation of picture data in an effective and simple manner without the need to increase the storage capacity of a storage medium." *Miyasaka et al.* at 2:49-52.

Nagao teaches a method and apparatus for image processing that comprises at least one of gradation correction ("color and tone (gradation) adjustment" at 7:21-26), white balance correction, density correction, and sharpness processing (fig. 2, item 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the image enhancement processing of *Pearlstein* in view of *Miyasaka et al.* to include at least one of gradation correction, white balance correction, density correction, and sharpness processing as taught by *Nagao* "to provide a method for processing digital images to suppress noise and enhance sharpness, by which graininess can be suppressed and image sharpness enhanced without causing any of the problems associated with the prior art." *Nagao* at 3:35-39.

Regarding **claim 14**, claim 4 recites identical features as in claim 14. Thus, references/arguments equivalent for claim 4 are equally applicable to claim 14.

Regarding **claim 15**, claim 5 recites identical features as in claim 15. Thus, references/arguments equivalent for claim 5 are equally applicable to claim 15.

Regarding **claim 18**, claim 8 recites identical features as in claim 18. Thus, references/arguments equivalent for claim 8 are equally applicable to claim 18.

Regarding **claim 20**, claim 11 recites identical features as in claim 20. Thus, references/arguments equivalent for claim 11 are equally applicable to claim 20.

Pearlstein in view of Honjo and Nagao

[12] **Claims 6-7** and **16-17** are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Pearlstein* in view of U.S. Pub. No. 2001/0033737 (filed Mar. 5, 2001, *hereinafter* "Honjo") and *Nagao*.

Regarding **claim 6**, while *Pearlstein* discloses an image processing apparatus (fig. 4) for obtaining processed compressed moving image data (*e.g.*, fig. 4, item 402) by carrying out image enhancement processing (fig. 5, item 458; *e.g.*, inserting uncompressed local image data) on compressed moving image data ("COMPRESSED VIDEO" at fig. 5; *e.g.*, fig. 3) comprising a first set of frames and a second set of frames, the image processing apparatus comprising:

division means (fig. 5, item 454) for dividing the compressed moving image data ("COMPRESSED VIDEO" at fig. 5) into the first set of frames (the output frame(s) of item 454 sent directly to item 456; any one of the multiple frames sent to item 456 may be called a first frame reference) and the second set of frames (the output frame(s) of item 454 sent directly to item 462 which is not a first frame);

decoding means (fig. 5, item 456) for obtaining decoded data by decoding the first set of frames and the second set of frames;

correction means (fig. 5, item 458) for obtaining corrected decoded data by carrying out the image enhancement processing (*e.g.*, inserting uncompressed local image data) on the first set of frames;

encoding means (fig. 5, item 460) for encoding the corrected the first set of frames; and

combination means (fig. 5, item 462) for obtaining the processed compressed moving image data by combining the first set of frames that has been encoded (upper input arrow into item 462) with the second set of frames (lower input arrow into item 462), *Pearlstein* does not teach (i) wherein the division means divides compressed moving image data into the intra frames and the inter frames; and (ii) (ii) wherein the image enhancement processing comprises at least one of gradation correction, white balance correction, density correction, and sharpness processing.

Honjo teaches a division means for dividing the compressed moving image data into I frames, P frames, and B frames (the disclosed MPEG system must divide into I, P, and B frames), and decoding means for decoding I and P frames ("decoding only I frames and P frames" at ¶0066).

Because both *Pearlstein* and *Honjo* teach methods for dividing a compressed moving image, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the first set of frames with I and P frames, and the second set of frames with B frames "to provide a signal processing method and apparatus which can monitor the dubbing state when high-speed dubbing of digital video data or digital audio data is performed." *Honjo* at para.0020.

Nagao teaches a method and apparatus for image processing that comprises at least one of gradation correction ("color and tone (gradation) adjustment" at 7:21-26), white balance correction, density correction, and sharpness processing (fig. 2, item 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the image enhancement processing of *Pearlstein* in view of *Honjo* to include at least one of gradation correction, white balance correction, density correction, and sharpness processing as taught by *Nagao* "to provide a method for processing digital images to suppress noise and enhance sharpness, by which graininess can be suppressed and image sharpness enhanced without causing any of the problems associated with the prior art." *Nagao* at 3:35-39.

Regarding **claim 7**, *Pearlstein* in view of *Honjo* and *Nagao* discloses (*see* claim objection for failure to further limit) the image processing apparatus according to claim 6 further comprising block division means (*Pearlstein*, fig. 5, item 454) for dividing the B frames into intra blocks and inter blocks (frames are divided at item 454 (*see* claim 6), thus since frames are divided so are their blocks because frames are comprised of blocks),

the decoding means (*Pearlstein*, fig. 5, item 456) further obtaining decoded intra blocks by decoding the intra blocks,

the correction means (*Pearlstein*, fig. 5, item 458) further obtaining corrected decoded intra blocks by carrying out the image enhancement processing on the decoded intra blocks,

the encoding means (*Pearlstein*, fig. 5, item 460) further obtaining corrected intra blocks by encoding the corrected decoded intra blocks, and

the combination means (*Pearlstein*, fig. 5, item 462) obtaining the processed compressed moving image data by combining the corrected I frames, the corrected P frames, and the corrected intra blocks with the inter blocks.

Regarding **claim 16**, claim 6 recites identical features as in claim 16. Thus, references/arguments equivalent for claim 6 are equally applicable to claim 16.

Regarding **claim 17**, claim 7 recites identical features as in claim 17. Thus, references/arguments equivalent for claim 7 are equally applicable to claim 17.

Allowable Subject Matter

[13] **Claim 10** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

[14] Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID P. RASHID whose telephone number is (571)270-1578. The examiner can normally be reached Monday - Friday 7:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-74155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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